

DESIGN AND CHECK DATA REQUIREMENTS

Manure Transfer Planning and Design

The following items must be addressed:

- 1) Location
 - a) Access to waste producing sources
 - b) Delivery to storage or spreading equipment
 - c) Consistent with Waste Management System
- 2) Grade and Alignment
 - a) Can gravity systems be used
 - b) Maximum elevation differences
 - c) Required working head
 - d) Straight as possible
 - e) Maximum distances
- 3) Types of System Applicable
 - a) Gravity
 - b) Direct transfer
 - c) Pump
- 4) Operational Requirements
 - a) Horsepower
 - b) Discharge capacity
 - c) Total head
 - d) Solids Capacity
 - e) Labor
 - f) Time
- 5) Installation Requirements
 - a) Timing of installation with other components of a Waste Management System
 - b) Excavation and/or fill
 - c) Structural components necessary
 - d) Safety
 - e) Soils and foundations
 - f) Erosion and sediment control
- 6) Operation and Maintenance Plan Prepared

Construction Specifications

Include the applicable specifications (e.g. 313, 606, 430DD, 342, 382, 442, 633). Include any conditions or items which are necessary to define the system and components for the specific site. (See instructions for use of Specification 634.)

Add any special or "by others" specifications which may be required or described by suppliers of structures or equipment.

Engineering Drawings

Listed are items which should be included on the drawings.

Plan Views Sheets - Locations

- Sources of wastes
- Pipelines (existing and proposed)
- North arrow
- Utilities/road
- Bench mark(s)
- Scale
- Access
- Existing structures
- X-section location(s)
- Construction limits
- Foundation drainage location
- Component locations
- Contours
- Test pits
- Spoil & borrow areas
- Legend
- Storages or other destination of the waste

Transfer System

- Hoppers, reception pits, pumps
- Unloading pads
- Access roads

Profile - Elevation and Distances for:

- Hoppers
- Reception pits
- Pipelines
- Bedding
- Original Ground
- Existing pipelines and utilities
- Foundation requirements for excavating and fill
- Leave room for as-built information

Cross-Section

- Pipe sizes
- Bedding
- Trench widths
- Backfill
- Foundations
- Overexcavation requirements

Sequencing statement plan with:

- E&S control
- Construction sequences
- Spoil and borrow areas
- Special considerations
 - a) Special equipment
 - b) Special joints
- Vegetative requirements
- Fencing and safety features
- References to specific standards and drawings

If state or local permits are required, additional details may be needed. If the system is for a dairy operation, the drawings and specification must be submitted to the local dairy inspector prior to construction.

Include any standard drawings made by NRCS or designed by others and concurred in by NRCS that are needed or supplied by structure or equipment manufacturers or installers.

Erosion and Sediment Control Plan

See DEP's Erosion and Sediment Pollution Control Program Manual.

Inspection Plan

1. What specific items need inspection, and when?
2. Who will do the actual inspection?
3. Is any testing equipment required for the inspection?

Construction Checks and Documentation

The items in the inspection plan must be verified in the field.

Adequate surveys and measurements must be done to verify installation according to the design and to prepare as-built drawings.

As-built drawings must show conformance with or deviation from the approved design. Documentation shall include approvals as needed for design deviations.